

What is claimed is:

1. A medical device system that provides treatment therapy for a nervous system disorder, the medical device system comprising:
 - an implanted component that monitors a neurological signal and applies the treatment therapy;
 - a relaying module that is worn by the patient and that is coupled to the implanted component through a first telemetry channel; and
 - an external component that communicates to the implanted component through the relaying module over a second telemetry channel.
2. The medical device system of claim 1, wherein the implanted component comprises a monitoring element that monitors the neurological signal, a treatment delivery unit that delivers the treatment therapy, and an interfacing unit that conditions the neurological signal, samples the neurological signal, and activates the treatment delivery unit.
3. The medical device system of claim 1, wherein the implanted component comprises a monitoring element and a treatment delivery system.
4. The medical device system of claim 3, wherein the implanted component further comprises a detection algorithm.
5. The medical device system of claim 4, wherein the external component comprises a storage unit for storing information received from the implanted component.
6. The medical device system of claim 5, wherein the information comprises output from the detection algorithm.

7. The medical device system of claim 1, wherein the implanted component comprises a monitoring element that monitors the neurological signal, a treatment therapy unit that delivers the treatment therapy, an interfacing unit that conditions the neurological signal, samples the neurological signal, and activates the treatment delivery unit, and a processing unit that detects neurological events and instructs the interfacing unit to initiate the treatment therapy.

8. The medical device system of claim 1, wherein the external component comprises a storage unit for storing information received from the implanted component.

9. The medical device system of claim 8, wherein the information comprises sensed physiological signals.

10. The medical device system of claim 1, wherein the external component comprises a processing unit that detects neurological events and submits an instruction to initiate the treatment therapy.

11. The medical device system of claim 1, wherein the external component comprises an interfacing unit that conditions the neurological signal, samples the neurological signal, and activates a treatment delivery unit, and a processing unit that detects neurological events and instructs the interfacing unit to initiate the treatment therapy.

12. The medical device system of claim 1, wherein the external component is a programmer that enables a user to configure the implanted component.

13. The medical device system of claim 1, wherein the relaying module is worn on an arm of the patient.

14. The medical device of claim 13, wherein the relaying module is worn on a wrist of the arm of the patient.

15. The medical device system of claim 1, wherein the nervous system disorder is selected from the group consisting of a disorder of a central nervous system, a disorder of a peripheral nervous system, and mental health disorder, and psychiatric disorder.

16. The medical device system of claim 15, wherein the nervous system disorder is selected from the group consisting of epilepsy, Parkinson's disease, essential tremor, dystonia, multiple sclerosis (MS), anxiety, a mood disorder, a sleep disorder, obesity, and anorexia.

17. The medical device system of claim 1, wherein the treatment therapy is selected from the group consisting of electrical stimulation, magnetic stimulation, drug infusion, and brain cooling.

18. The medical device system of claim 1, wherein the neurological signal is selected from the group consisting of a electrical signal, a chemical signal, a biological signal, a temperature signal, a pressure signal, a respiration signal, a heart rate signal, a pH-level signal, and a peripheral nerve signal.

19. The medical device system of claim 1, wherein the treatment therapy is provided to a location of a body selected from the group consisting of a brain, a vagal nerve, a spinal cord, and a peripheral nerve.

20. The medical device system of claim 1, wherein the medical device system is selected from the group consisting of an external system, a hybrid system, and an implanted system.

21. The medical device system of claim 2, wherein the monitoring element is selected from the group consisting of an electrode and a sensor.

22. The medical device system of claim 3, wherein the monitoring element is selected from the group consisting of an electrode and a sensor.

23. The medical device system of claim 7, wherein the monitoring element is selected from the group consisting of an electrode and a sensor.

24. A medical device system that provides treatment therapy for a nervous system disorder, the medical device system comprising:

an implanted component that monitors a neurological signal and applies the treatment therapy;

a relaying module that is worn by the patient and that is coupled to the implanted component through a first telemetry channel; and

an external component that communicates to the implanted component through the relaying module over a second telemetry channel.